

U.S. AIR FORCE
INSTALLATION RESTORATION PROGRAM

WILLOW GROVE ARF, PA

DECISION DOCUMENT

OLD WELL HOUSE (SITE OT07)

JUNE 1990

HEADQUARTERS, U.S. AIR FORCE RESERVE
ROBINS AIR FORCE BASE, GEORGIA 31098-6001

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INTRODUCTION

The objective of this decision document is to describe the setting, present the technical findings of previous studies, evaluate potential remedial alternatives, and ultimately document the Air Force Reserve (AFRES) position on the final status of the Old Well House (Installation Restoration Program Site OT07) at the Willow Grove AFRES facility, Pennsylvania.

SITE IDENTIFICATION

The Willow Grove AFRES facility consists of approximately 162 acres located 23 miles north of Philadelphia in southeast Montgomery County and northeast of Willow Grove Naval Air Station (Fig 1). The IRP site described in this decision document consists of an former well house which is currently utilized as a hazardous materials storage building (Fig 2).

BACKGROUND

Site Description

The Old Well House consists of a small building containing an abandoned well-head which was closed by capping and sealed immediately after installation in 1962. The well was never utilized as a water source. The structure is currently utilized as a hazardous materials storage area for paints, paint thinners, and lacquer thinners. No evidence of past spillage is visible in or around the building location.

Previous Investigations

An IRP Records Search for Willow Grove was completed by Roy F. Weston Inc. in November 1984. The purpose of the records search was to identify the potential for environmental contamination due to past waste disposal practices and to assess the probability for contamination migration. A total of seven sites were initially identified at the AFRES installation. The Old Well House was initially identified as a site due to the close proximity of the stored hazardous materials to the abandoned wellhead.

In 1989 and 1990 EA Engineering, Science, and Technology, Inc. (EA) conducted a Site Inspection (SI) at four sites at the Willow Grove AFRES facility in order to define the type and extent of contamination and determine the potential need for remedial action. Due to the absence of any evidence of past spillage and inability to sample the well within the Old Well House due to prior closure, no additional investigation was undertaken at the Old Well House.

ENVIRONMENTAL SETTING

Willow Grove is located in the Southeastern Coastal Plain/Allegheny Plateau physiographic province. The topography consists of gently northwestwardly sloping hills and nearly level plains. Elevations range from 264 to 315 feet above mean sea level.

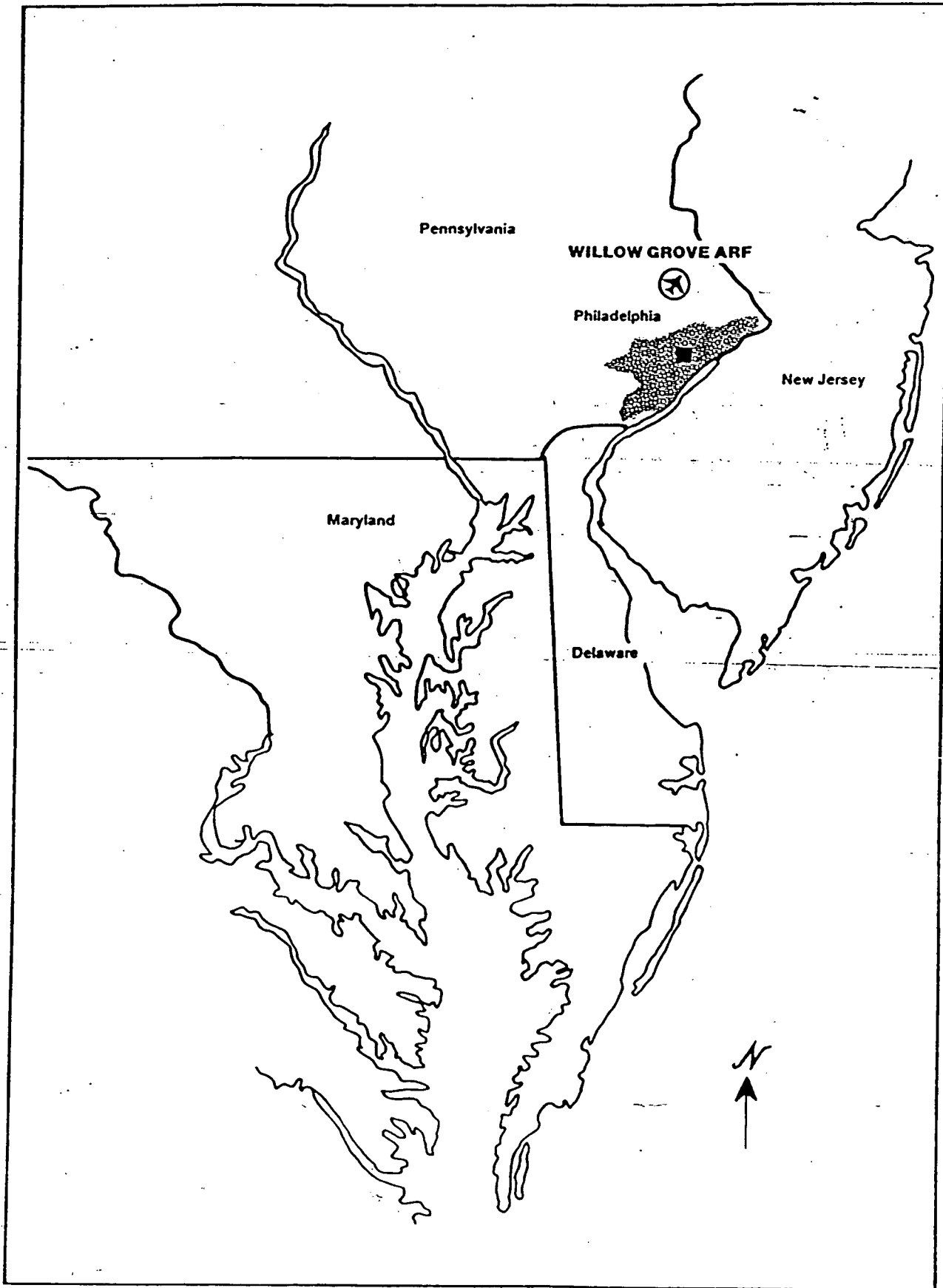


Figure 1: LOCATION OF WILLOW GROVE ARF

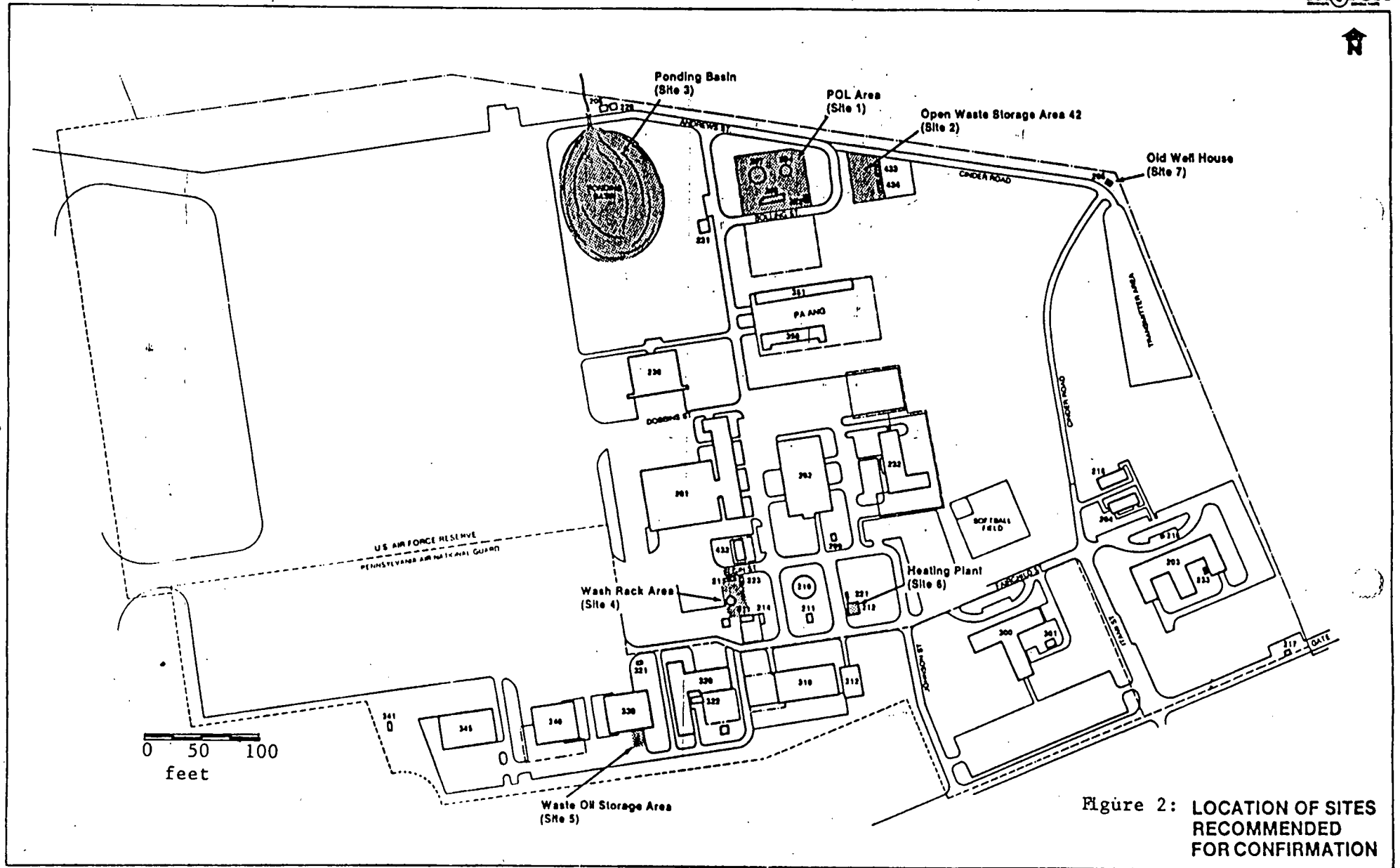


Figure 2: LOCATION OF SITES RECOMMENDED FOR CONFIRMATION

Willow Grove receives an average annual precipitation of approximately 41 inches with an average annual net precipitation of 18 inches. Maximum rainfall occurs in late summer in connection with local thunderstorms. The one-year, 24 hour rainfall in the vicinity of Willow Grove is about 2.7 inches.

The predominant bedrock at Willow Grove consists of the sandstones and shales of the Stockton Formation. The Stockton Formation is overlain by a thin (2 to 15 feet) cover of soil and unconsolidated sediments. Bedrock in the area dips generally to the northwest and contains zones of well developed vertical jointing.

Groundwater beneath the facility occurs within the Stockton Formation and is strongly influenced by the size, frequency, distribution, and orientation of fractures within the consolidated sediments. The surficial sediments are generally in good hydrologic connection with the underlying bedrock and act as a storage medium for seasonal infiltration which is slowly transmitted as recharge to the bedrock aquifer. All groundwater within the surficial sediments and the Stockton Formation flow generally to the northwest below Willow Grove ARF. The Stockton Formation is the major water producing aquifer for private and industrial applications in the area of Willow Grove.

Surface water runoff from the base is collected through a series of manmade ditches, culverts, and storm sewers which discharge into a local ponding basin. Discharge from the basin flows northward into Little Neshaminy Creek and then into the Delaware River.

RESULTS AND SIGNIFICANCE OF PREVIOUS INVESTIGATIONS

Because the well within the Old Well House had been capped in 1962 and no evidence exists that contaminants were ever released within the Old Well House, no site characterization was undertaken at this facility.

CONTAMINATION ASSESSMENT

There have been no suspected or confirmed spills of materials within the Old Well house which could have possibly endangered public safety or the environment. All evidence demonstrates that contamination of the environment has not occurred at this site.

CONTROL MEASURES

Due to the prior capping of the well within the Old Well House and the absence of any detected contamination, no control measures or remediation efforts are necessary or justified for the Old Well House at the Willow Grove AFRES facility.

RECOMMENDATIONS

No contamination associated with past activity at the Old Well House has been observed and no significant discharge is known to have occurred at the site. Due to the prior capping of the interior well and the complete absence of contamination, this site is judged to pose no threat to public health or the environment of the Willow Grove area. AFRES recommends that no further action be taken at the Old Well House (Site OT07) at the Willow Grove AFRES facility.

REFERENCES

Roy F. Weston, Inc. 1984. INSTALLATION RESTORATION PROGRAM PHASE I - RECORDS SEARCH, WILLOW GROVE AIR RESERVE FACILITY, WILLOW GROVE, PENNSYLVANIA, prepared for United States Air Force Reserve, Robins AFB, Georgia 31098.

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